

## CINT Users Conference

August 10-11, 2010

Marriott Pyramid Hotel, Albuquerque, NM

### Agenda

#### Monday Evening, August 9

#### Location

5:00 pm	User Conference Registration Desk open Informal Meet & Greet Reception	Atrium
6:00 pm	<b>CINT: A Business R&amp;D Resource</b> Organizer: Andrew Dattelbaum, CINT  <b>Robert Hwang &amp; David Morris</b> , CINT Director and Co-Director <i>Welcome &amp; Introductions</i>	Cancun/Yucatan
6:05 pm	<b>Neal Shinn</b> , <i>CINT Outreach Manager</i> <i>CINT Overview; Becoming a CINT User</i>	
6:30 pm	<b>Jennifer DeGreeff</b> , Sandia National Laboratory <i>Overview of New Mexico Small Business Association</i>	
6:50 pm	Break	
7:00 pm	<b>Ed Flynn</b> , President, Senior Scientific LLC CINT User project example: <i>Nanotechnology in Nanomedicine: Magnetic Nanoparticles for In-Vivo Detection and Localization of Disease</i>	
7:25 pm	<b>Robin Cantor</b> , President, STAR Cryoelectronics CINT User project example: <i>Superconducting Electronics for Imaging Applications Ranging from Nanometer-scale to Light Years</i>	
7:50 pm	Wrap-up & Informal Discussions	
8:00 pm	Registration Desk closed Reception ends	

#### Tuesday Morning, August 10

#### Location

<b>Moderators:</b> <b>David Morris</b> , <i>CINT Co-Director</i> <b>Tom Picraux</b> , <i>CINT Chief Scientist</i>		
7:00 am	Registration Desk opens Continental Breakfast available CINT User Executive Committee Caucus	

8:00 am	<b>Robert Hwang</b> , CINT Director <i>Update</i>	Cancun <i>Welcome &amp; CINT</i>
8:15 am	<b>Pedro Montano</b> , Director, Scientific User Facilities Division, Basic Energy Sciences, Department of Energy <i>Update from BES</i>	
8:45 am	<b>Eva Andrei</b> , Rutgers, The State University of New Jersey <i>Probing Dirac fermions in graphene: from Landau level quantization to the fractional quantum Hall effect</i>	
9:25 am	Break	
9:40 am	<b>David A. Weitz</b> , Harvard University <i>New routes to making soft materials</i>	
10:20 am	<b>Michael Thackeray</b> , Argonne National Lab <i>Advanced Materials and Research in Electrochemical Energy Storage</i>	
11:00 am	Announcements  CINT Science and User projects	Poster session: Yucatan
12:00 pm	Buffet Lunch	Pavilion

## **Tuesday Afternoon, August 10**

## **Location**

1:00 pm	Concurrent Symposia I, II, III – See details below	
5:00 pm	Open User Meeting (all conference attendees are welcome to attend)	Tampico
5:30 pm	Informal networking	
7:00 pm	Conference Dinner	Cancun

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### ***I. Nanomaterials for Energy Storage and Energy Conversion: Electrical Energy Storage***

Organizers: John Sullivan, CINT Tampico  
Quanxi Jia, CINT

1:00 pm	<b>Rachid Yazami</b> , California Institute of Technology <i>Nanomaterials for Li-ion Batteries</i>	
1:45 pm	<b>Jianyu Huang</b> , CINT <i>Real-time In-Situ TEM Characterization of Electrochemical Processes in Batteries</i>	
2:30 pm	Break	
3:00 pm	<b>Shirley Meng</b> , University of California, San Diego <i>First Principles Computational Materials Design for Energy Storage Materials</i>	

4:30 pm Discussion

Organizers: Sasha Balatsky, CINT Cozumel  
Steve Doorn, CINT  
Suneel Kodambaka, University of California, Los Angeles

1:45 pm **Andrea Ferrari**, Cambridge University  
*Graphene spectroscopy*

2:30 pm      Break

3:45 pm **Phil Collins**, University of California, Irvine  
*Single-site chemistry on carbon nanotubes*

4:30 pm Discussion

Organizers: Andy Shreve, CINT  
Gary Grest, CINT  
Dvora Perahia, Clemson University

1:00 pm **Jennifer Martinez, CINT**  
*Production and characterization of fluorescent silver and gold nanoclusters*

1:40 pm **Vladimir Chernyak**, Wayne State University  
*Quasiparticle Picture of Optical Excitations in Conjugated Molecules*

2:20 pm      Break

3:00 pm **Jason McNeill**, Clemson University  
*Single conjugated polymer nanoparticles*

3:40 pm **Alan van Orden**, Colorado State University  
*Fluorescence Intermittency and Energy Transfer in Semiconductor Quantum Dot Clusters*

4:20 pm Discussion

## Location

7:00 am      Registration Desk open  
Continental Breakfast available

8:00 am Concurrent Symposia I, II, III (See details below)

12:00 pm Box Lunch available

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***I. Nanomaterials for Energy Storage and Energy Conversion:  
Novel Synthesis and Complex Oxides***

Tampico

Organizers: John Sullivan, CINT  
Quanxi Jia, CINT

8:00 am **Elbio Dagotto**, University of Tennessee/Oak Ridge National Lab  
*Theoretical studies of transition metal oxides in the bulk and in  
heterostructures using model Hamiltonians and computational techniques*

8:45 am **Ivar Martin**, Los Alamos National Laboratory  
*Spontaneous (Quantum) Hall Effect in Frustrated Magnets*

9:30 am Break

10:00 am **Judith Driscoll**, University of Cambridge  
*The Materials Science of Complex Functional Materials and Nanostructures*

10:45 am **Jan Seidel**, University of California, Berkeley  
*Synthesis, Characterization, and Application of Complex Oxides*

11:30 am Discussion

***II. Carbon-based Nanomaterials: Control of Interfacial and Surface Behavior*** Cozumel

Organizers: Sasha Balatsky, CINT  
Steve Doorn, CINT  
Suneel Kodambaka, University of California, Los Angeles

8:00 am **Michael Strano**, Massachusetts Institute of Technology  
*Carbon nanotube-based single molecule biosensing*

8:45 am **Charlie Johnson**, University of Pennsylvania  
*Graphene nanopores*

9:30 am Break

10:00 am **Mark Hersam**, Northwestern University  
*Chemically enhanced carbon-based nanoelectronic materials and devices*

10:45 am **Aaron Bostick**, Lawrence Berkeley National Laboratory  
*Graphene plasmonics*

11:30 am Discussion

***III. Soft & Composite Nanomaterials: From A Single Particle to Nano Assemblies***

Organizers: Andy Shreve, CINT Coronado  
Gary Grest, CINT  
Dvora Perahia, Clemson University

Moderators: Elba Serrano New Mexico State University  
Gary Grest, CINT

8:00 am	<b>Dale Huber</b> , CINT <i>Controlling Size and Polydispersity in the Wet Chemical Synthesis of Nanoparticles</i>
8:35 am	<b>Matthew Goertz</b> , CINT <i>Membranes, Nanoparticles, and Self-Assembly: Challenges in Creating Responsive Nanocomposites</i>
9:00 am	<b>John Grey</b> , University of New Mexico <i>Understanding the Role of Structural Heterogeneity on Charge and Energy Transfer Processes in Polymeric Semiconductor Materials from the Molecular to Macroscale Levels</i>
9:35 am	Break
10:00 am	<b>Sanat Kumar</b> , Columbia University <i>Self and Directed Assembly of Nanoparticle Amphiphiles</i>
10:40 am	<b>J. Matthew Lane</b> , Sandia National Laboratories <i>Asymmetry and forces on polymer-coated nanoparticles in solution</i>
11:05 am	<b>Arjun G. Yodh</b> , University of Pennsylvania <i>Swellable Particles are Swell</i>
11:45 am	Discussion

<b><u>Wednesday Afternoon, August 11 (Optional Events)</u></b>		<b><u>Location</u></b>
2:00 – 4:00 pm	Facility tour (advance sign up required)	CINT Core Facility

*US citizens: indicate tour attendance on your conference registration form.*

*Foreign National Citizens: we regret that the tour deadline has passed*